

CLAIMS

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1. A two-stroke engine of crankcase scavenged type, ~~including~~ comprising a piston reciprocably mounted in a cylinder, the cylinder wall having an exhaust port and a rear transfer port opposed thereto formed in it, the rear transfer port communicating with the interior of the crankcase via a rear transfer passage, the rear transfer port being arranged to open before the exhaust port closes whereby, in use, the cylinder is scavenged, an inlet duct arranged to supply combustion air to the crankcase, a throttling valve arranged to throttle the flow of air through the inlet duct, and a carburettor arranged to supply fuel into the inlet duct, ~~characterised in that~~ the interior of the crankcase is divided into at least two separate crankcase volumes, a rich volume and a lean volume, that each crankcase volume communicates with the cylinder via a respective hole in the crankcase wall, that the cylinder wall also has at least one lateral transfer port formed in it at a position between the rear transfer port and the exhaust port, the lateral transfer port being arranged to open before the exhaust port closes, that the lateral transfer port communicates with the lean volume via a lateral transfer passage, that the rear transfer port communicates with the rich volume, that the inlet duct is divided over at least part of its length into at least two inlet passages, a rich passage and a lean passage, which communicates the rich volume and the lean volume, respectively, and that the carburetor and/or the throttle valve are so constructed and arranged that, ~~under~~ ^{and} ~~ced into~~ operation, substantially all the fuel supplied by the carburetor is introduced into the rich passage and, under low load operation, the fuel carburettor is introduced into both the rich and lean

arranged to cooperate with the wall dividing the rich passage from the adjacent lean passage(s), whereby under high load conditions, when the throttle valve is open, the carburettor jet(s) is situated in a space which does not communicate with the lean passage(s) and all the fuel flows into the rich passage and, under low load conditions, when the throttle valve is substantially closed, the carburettor jet(s) are situated in a space which communicates with the rich passage and the lean passage(s) and the fuel flows into all the inlet passages.

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